REMARKS

Claims 1-12 are currently pending. The Examiner has rejected claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,758,889 to Koga et al in view of U.S. Patent No. 6,749,675 to Momose. The Examiner has also rejected claims 1, 5-8, 11 and 12 under 35 U.S.C. § 103(a) as being unpatentable over JP 10-140065. The following remarks are considered by applicant to overcome each of the Examiner's outstanding rejections. An early Notice of Allowance is therefore requested.

I. Summary of Relevant Law

The determination of obviousness rests on whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. In determining obviousness, four factors should be weighed: (1) the scope and content of the prior art, (2) the differences between the art and the claims at issue, (3) the level of ordinary skill in the art, and (4) whatever objective evidence may be present. Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor. The Examiner carries the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness and must show that the references relied on teach or suggest all of the limitations of the claims.

II. Rejection of Claims 1-12 Under 35 U.S.C. § 103(A) Based on Koga et al in View of Momose

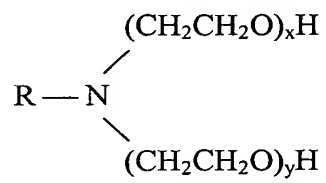
With respect to this rejection, the Examiner contends that

> "[I]t would have been obvious to one of ordinary skill in the art to use the anionic surfactant sodium polyoxyethylene oleyl ether sulfate as taught by Momose in the ink composition of Koga et al, as Koga et al broadly discloses anionic surfactants, **because Momose teaches that sodium polyoxyethylene oleyl ether sulfate may be used in combination with a nonionic surfactant and self-dispersing pigment that produces an ink composition similar to that taught by Koga et al.**"

Office Action (9/15/05), P. 3 (emphasis added). However, this misconstrues the teachings of Koga et al and Momose.

While obviousness may be found by combining references, absent a suggestion to combine the references such combination is inappropriate. It is insufficient that the prior art discloses the components of the claims sought to be patented. A teaching, suggestion or incentive to make the combination is required for the combination of the art to demonstrate obviousness.

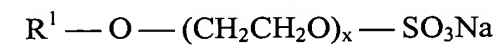
The purpose of Koga et al is "...to avoid the occurrence of the feathering and the color bleed." Koga et al, Col. 1, Lns. 50-51. Koga et al accomplishes this by lowering the surface tension of the ink "...to increase the permeation speed of the ink." Koga et al, Col. 1, Lns. 50-53. The way in which Koga et al lowers the surface tension is by use of the surfactant represented by Koga et al Formula (1):



Koga et al Formula (1)

Wherein R represents an alkly froup having a number of carbons 8-18, and $x + y \leq 10$ is satisfied. Koga et al, Col. 2, Lns. 4-27.

As Examiner has correctly stated, Koga et al fails to teach the specific compound taught by Applicants represented by Applicants Formula (1):



Applicants Formula (1)

Wherein R^1 represents an alkyl group and x is 20 to 30. Application, P. 5, ¶ [0008]. See Office Action (9/15/05), P. 3. Furthermore, Koga et al fails to teach any relationship between Koga et al Formula (1) and the coloring agent. Koga et al certainly fails to teach any relationship between Koga et al Formula (1) and surface tension stability.

The purpose of Momose is to improve "...solubility in water of an acetylene alcohol compound based surfactant of a strong hydrophobic structure...." Momose, Co. 1, Lns. 51-55. This purpose was achieved by combined use of a specific acetylene alcohol based surfactant and a specific surface active substance (another surfactant) capable of causing an effective amount of the acetylene alcohol based surfactant to dissolve in water. Momose, Col. 1, Lns. 55-60. One of these other surfactants taught is Momose Formula (21e):

$R_{15}O(CH_2CH_2O)_{j1}SO_3M_2$ **Momose Formula (21e)**

Wherein R_{15} represents a C_{1-15} alkyl group which may be branched, subscript j1 stands for 1 to 30, and M_2 represents a hydrogen atom, an alkali metal, or a base such as ammonium. Momose, Col. 2, Lns. 24-54. Specific examples of Momose Formula (21e) include sodium polyoxyethylene oleyl ether sulfate.

The only teaching of Momose is to use Momose Formula (21e) to cause "the acetylene alcohol based surfactant to **dissolve in water**...," it fails teach any relationship between Momose Formula (21e) and any coloring agent, let alone the ability of Momose Formula (21e) to suspend a water-insoluble particulate coloring agent in a water base ink. Momose, Col. 5, Lns. 12-15 (emphasis added). Momose also fails to teach any relationship between Momose Formula (21e) and surface tension stability. Unless a composition contains an acetylene alcohol based surfactant, which Koga et al does not, there is no motivation to one of skill in the art to add Momose Formula (21e) to that composition.

It is also important to note that neither Koga et al nor Momose teach any interaction between, or effects from combining, Koga et al Formula (1) and Momose Formula (21e). Furthermore, neither Koga et al nor Momose teach to the problem addressed in the present application of surfactant absorption to a water-insoluble particulate coloring agent. Application, P.4, ¶ [0006].

Since Momose only teaches the use of a surfactant with a nitrogen atom in combination with an acetylene alcohol based surfactant to cause "the acetylene alcohol based surfactant to **dissolve in water**...," and Koga et al contains no acetylene alcohol based surfactant, Applicant respectfully asserts one of ordinary skill in the art would find no motivation to add such a surfactant with a nitrogen atom to the composition of Koga et al. There is no motivation to combine the two references above to arrive at Applicants' invention as defined in independent Claim 1. As such, Applicants respectfully assert that Examiner has failed to establish a prima facie case of obviousness of independent Claim 1 and corresponding claims 2-12 because they are dependant from Claim 1.[1] Therefore, Applicants respectfully request that Examiner remove the rejection of claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,758,889 to Koga et al in view of U.S. Patent No. 6,749,675 to Momose.

III. REJECTION OF CLAIMS 1, 5-8, 11 AND 12 UNDER 35 U.S.C. § 103(A) BASED ON JP 10-140065

With respect to this rejection, the Examiner also contends that

> "[I]t would have been obvious to one of ordinary skill in the art to use the specific structure set forth by formula (1) and a surfactant which has a nitrogen atom as claimed by applicant **as JP 10-140065 also discloses the use of the specific structure set forth by formula (1) and a surfactant which has a nitrogen atom but shows no example incorporating them.**"

Office Action (9/15/05), P. 4 (emphasis added). However, this misconstrues the teachings of JP 10-140065.

Examiner contends that JP 10-140065 discloses the use of a surfactant which has a nitrogen atom. However, Examiner does not point to any section of JP 10-140065 that

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1 It should also be noted that Claim 3 specifies that "a ratio of change of the surface tension after storage at 60 °C for 2 weeks is less than 5%." Such a requirement is not disclosed in Koga et al or Momose. Thus, it is impossible to combine Koga et al and Momose in a way that would teach or suggest all the limitations of Claim 3.

discloses a surfactant which has a nitrogen atom. Applicant respectfully asserts that JP 10-140065 never discloses such a compound. JP 10-140065 discloses six nitrogen containing compounds. Three of these nitrogen compounds are polymerization initiators (azobis isobutyl nitril, azobis-2,4-dimethylvaleronitrile, and azobis cyclohexane carbonitrile). JP 10-140065, ¶ [0032] (these compounds are also described as anionic radical content acrylic monomers at ¶ [0054]). Two of these nitrogen compounds are anion radical content acrylic monomers (acrylonitrile and methacrylonitrile). JP 10-140065, ¶ [0047]-[0049]. And the last nitrogen compound disclosed is nitric acid. JP 10-140065, ¶ [0089]. None of these six compounds is a surfactant as asserted by Examiner. Furthermore, Examiner admits that JP 10-140065 fails to disclose "the use of the specific structure set forth by formula (1) and a surfactant which has a nitrogen atom as claimed by applicant." Office Action (9/15/05), P. 4. As such, Applicants respectfully assert that Examiner has failed to establish a prima facie case of obviousness of independent Claim 1 and corresponding claims 2-12 because they are dependant from Claim 1. Therefore, Applicants respectfully request that Examiner remove the rejection of claims 1, 5-8, 11 and 12 under 35 U.S.C. § 103(a) as being unpatentable over JP 10-140065.

Based upon the above remarks, Applicant respectfully requests reconsideration of this application and its early allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,

ED:JWT

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